507 to 509 and repeats the above described steps for the horizontal coordinate data. The program then advances to decision instruction 510 to determine whether all the stored coordinate data has been converted and formatted. If all the data has not been converted and formatted the program returns to instruction 502 and repeats all of the above described steps. If all the data has been converted and formatted the program goes to instruction 512 which returns the program to EXECUTE subroutine 100.

Referring now to the drawings, and more particularly to FIG. 2 thereof, there is illustrated another computer input system 1000 for controlling the movement of an image of a cursor or the like and which is also constructed in accordance with the present invention.

The computer input system 1000 generally includes an image or light detection system 110, a conventional personal computer 116 having a video monitor 117 and keyboard 118, and a light generating device 124. The light generating device 124 is adapted to be mounted on the frame of a conventional pair of eyeglasses 115. The device 124 generates light which may be directed by a user to a monitor screen 121 having computer generated video image signals displayed thereon. In this regard, the light detection system 110 detects the presence of the light projected on the screen 121 of monitor 117 by the light projecting device 124 and generates an input signal which is coupled to the computer 116. The computer 116 responds to the input signal generated by the light detection system 101 to change the computer generated information displayed on the video monitor 117 in accordance with the information contained in the input signal. The input signals generated by the light generating device 124 are substantially identical to the coordinate reference signals generated by the signal processing unit 25 of FIG. 1 and 3.

F. DIRECT VIEWING MONITOR SYSTEM

Considering now the image detection system 110 in greater detail, the image detector system 110 generally comprises a charge coupled device image sensor 114. Image sensor 114 is substantially similar to image sensor 14 except that includes a different housing unit and is adapted to be telescopically mounted to the keyboard 118. In this regard, the image sensor 114 is disposed on keyboard 118 so that it can receive the light images projected onto screen 121 by the light generating device 124. The image detection system 1000 also includes a signal processing unit 125 which is disposed on the keyboard 118. The signal processing unit 125 is coupled to the computer 116 via a keyboard cable (not shown). The signal processing unit 125 is substantially similar to signal processing unit 25 and will not be described hereinafter in greater detail.

In operation, after the system 110 has been calibrated as previously explained with reference to system 10, computer 116 generates a video output signal that is coupled to the video monitor 117. The video monitor 117 converts the video signal into a visual image which is displayed on the monitor screen 121. A user, for example, then directs the light projection from device 124 to a designated portion of the computer generated image on screen 121 to produce a spot of light on the screen which is superimposed over the visual image being displayed on the monitor 117. The image sensor 114 detects the presence of the generated light and produce a video signal which is transmitted to the signal processing unit 125. The signal processing unit 125 converts the video signal received from the image sensor 114 into a computer input signal that is transmitted to the computer 116. Computer 116 receives the input signal, converts the signal into a command signal and generates a modified video signal for changing the displayed information on screen 121 in the same manner as previously described with reference to system 10.

While particular embodiments of the present invention have been disclosed, it is to be understood that various different modifications are possible and are contemplated within the true spirit and scope of the appended claims. For example, the images being generated can appear on a large projection screen, a computer monitor screen, a laser projector, or any other suitable surface on which the images can appear. There is no intention, therefore, of limitations to the exact abstract or disclosure herein presented.

What is claimed is:

1. An interactive optical input system for position control of equipment produced images, said equipment produced images including information images, comprising:

visualization projection means for causing an equipment produced image to be projected onto a remote viewing surface;

means for generating a position control image upon said surface;

light sensing means for scanning the equipment produced image and the position control image on the remote viewing surface, said light sensing means including means for determining light sensing coordinate values for said position control image;

means for storing predetermined reference coordinate values;

signal processing means responsive to the predetermined reference coordinate values and to the determined light sensing coordinate values for the position control image for converting the light sensing coordinate values for said position control image to equipment coordinate values;

means responsive to said equipment coordinate values of the position control image for generating a signal indicative of a positioning control command when said position control image is sequenced on and off; and

whereby the command and the location of the position control image relative to said information image causes the equipment produced images to be modified.

2. An interactive optical input system according to claim 1, wherein the information images include menu images,

wherein said signal is further indicative of a positioning point command when said position control image is sequenced on and off, and

whereby the command and the location of the position control image relative to said menu images causes the equipment produced images to be modified.

3. An interactive optical input system according to claim 1, wherein the information images include button images,

wherein said signal is further indicative of a positioning click command when said position control image is sequenced on and off, and

whereby the command and the location of the position control image relative to said button images causes the equipment produced images to be modified.

4. An interactive optical input system according to claim 1 wherein said signal is further indicative of a positioning drag command when said position control image is sequenced on and off and

whereby the command and the location of the position control image relative to the equipment produced